HEADACHES AND TENDER POINTS IN DIAGNOSIS

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NATURE'S care of the body, whether developed through evolution or providentially acquired, demonstrates a most perfect scheme for protection. Since animals have been struggling for existence and the maintenance of life and health, Nature has offered a defense which has prevented annihilation, safeguarding them in various ways. The discoveries of Ehrlich as to immunity and those of Metchnikoff as to phagocytosis show an elaborate plan for the control of invading pathogenic life. So strongly has the medical mind been impressed by *this* power of Nature that the old truth of the value of pain and its necessitating rest has been almost forgotten.

Nature's first effort tending to the relief of distress or incident disease is through the sensation of pain. Conditions existing without pain and attracting no attention do not bring about the recoveries seen where pain is present.

One of her most important aids in recovery is rest. This is demonstrated in divers ways: for instance, when a tubercular hip begins to ache, the muscles around the joint become spastically contracted, immobilizing it. Thus, in appendicitis a contraction of the abdominal muscles occurs over the site of the inflammation which protects it. Again, it is seen in pneumonia where there is a spastic contraction of the intercostals. So in all instances of local inflammation where pain is prone to be developed there is a reflex contraction of superimposed muscles, tending to rest. The physician's Old Testament should be Hilton on "Rest and Pain"; his New should be found in the works on bacteriology.

A distinction must be made between pain as a sense and the sense of pain. Irritation of the superficial nerves for the sense of pain at the periphery is carried through that nerve in the posterior columns to the thalmus, and it is probably here that the sense of pain is appreciated subconsciously. If the vestibule of resistance

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* A clinical lecture.

be low or the irritation intense, the thalmus is passed and the cerebral cortex reached, producing conscious pain; its potentiality depending on two conditions: the extent or severity of the irritation, and the tonus or susceptibility of the individual. In certain races and in city folk where nerve tone is more refined, pains are more keenly felt and the disturbance from them is in excess of that of the lowly or poorly educated, in whom greater trauma can be sustained with less painful reaction.

Embryologically, the brain and cord have a common origin with the skin and its sensory nerves. This may be considered a part of Nature's effort to protect the body by bringing the sense organ in closer touch with the periphery. The effect of irritation to the sensory nerves differs materially whether it comes from the periphery, the skin, or whether from one of the nerves of the inner organs. Painful irritations passing up the sympathetic or through its correlated nerve, the pneumogastric, are always accompanied by more anguish, more mental dejection and depression than those coming from the periphery.

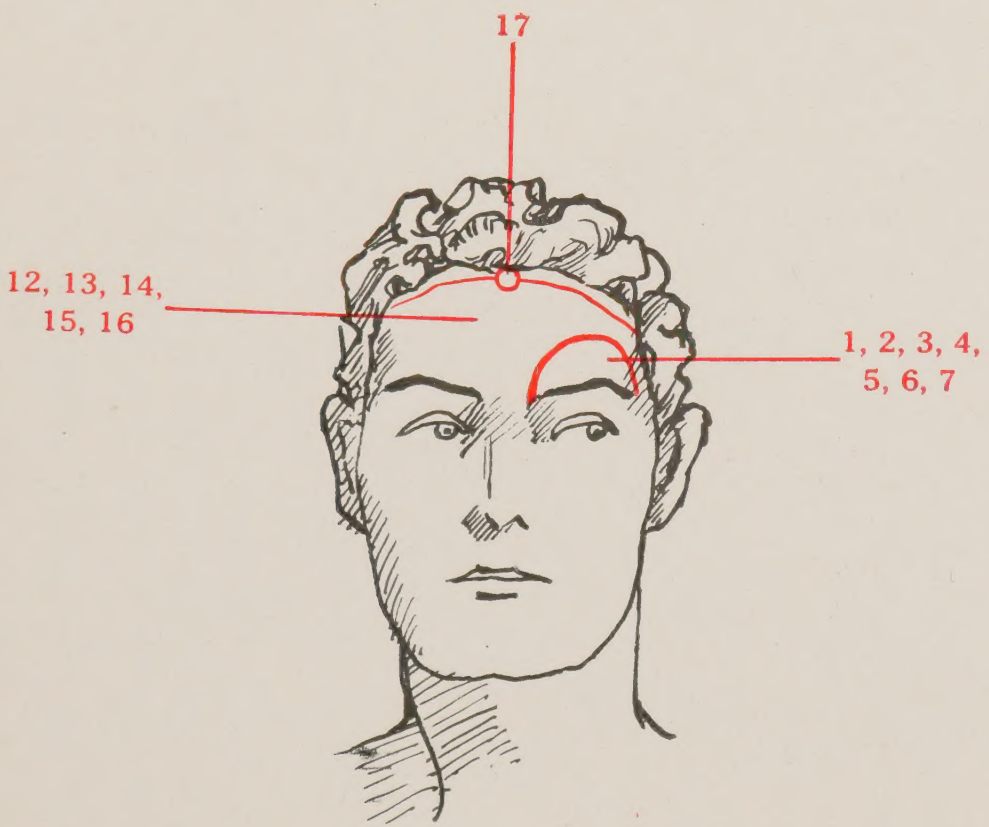
Pain is Nature's warning that some harm is being done, that there is some insult to the physiological functioning of an organ or tissue. Instinctively a person submits himself or herself to the desire for rest.

HEADACHES

Headache is an alarm that somewhere, either in the cranium or in the body, something is going wrong. Every one intuitively appreciates the importance of disturbing conditions in the neighborhood of the mind centre. No more important point could have been selected for the call of danger than this portion of the body.

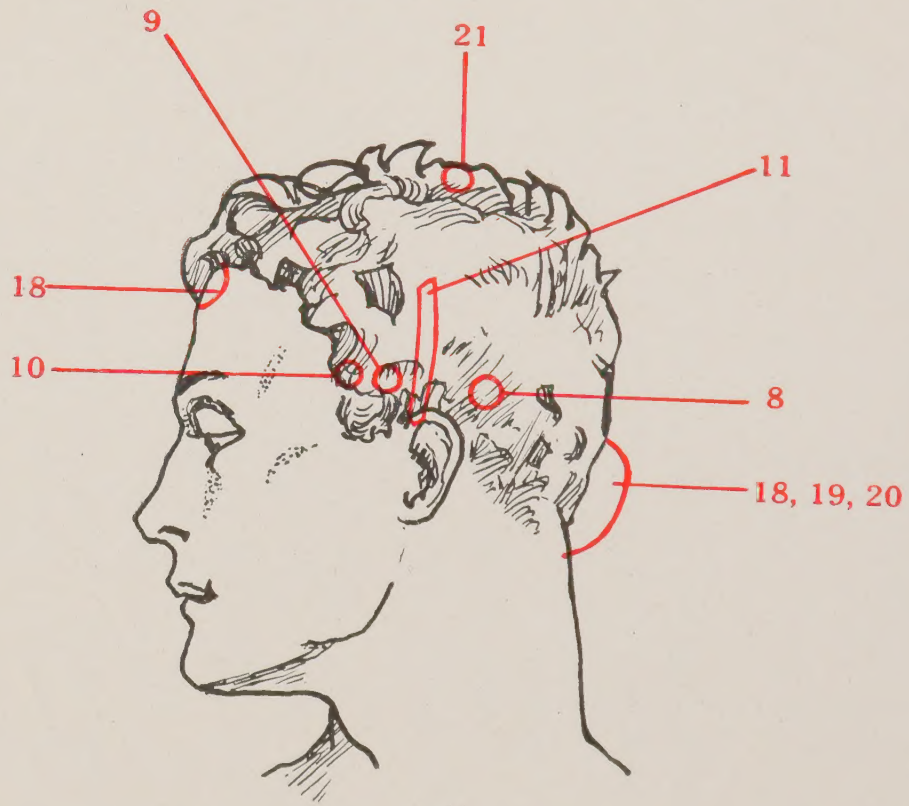
To better understand headaches the anatomy of this region must be clear. The brain has no sensory nerves. The dura is a dense, non-elastic membrane of fibrous tissue. It is plentifully supplied by sensory as well as vasomotor nerves; namely, branches of the trochlear, ophthalmic, semilunar ganglion, vagus, and hypoglossal of the cerebral group, and the sympathetic. Any affection of the vasomotor system which allows of distention of the blood-vessels in the dura would naturally lead to disturbance of the terminals of the sensory nerves with the production of pain. When the number of cranial

Fig. 1.



Unilateral varieties of headaches.

Fig. 2.



Bilateral varieties of headache.

(For explanation of figures, the reader is referred to the text.)

nerves distributed to this membrane is considered, and their anatomical and physiological importance appreciated, it is not to be wondered that disturbances in any part of the body may be reflected or referred to the dura.

The epicranium is supplied by the tri-facial, facial, and great occipital. Histologically, the epicranium is somewhat similar to the dura, but it is not so dense. It has a more moderate nerve supply, having but three nerves, the two cranial and the cervical. One would judge that its importance in the origin of headaches was less than that of the dura.

It is very evident that the symptom headache warns of many conditions, both local and systemic. Any tissue composing the caput, whether the soft brain, the bones of the face and skull, or the membranes, becoming affected either through local or systemic conditions, may give rise to the symptom headache. Rarely, if ever, are pains noted in or around the head without some other symptom being present, either referred to the sensorium, the nerves of the scalp, or some viscera.

Headaches may be variously divided. In order to use this symptom in differential diagnosis we must leave its pathology and cling to its point of localization. Headaches may be primarily dural, or they may be an affection of the nerves of the external part. Headaches due to changes in the dura have a larger systemic symptomatology ordinarily than those of the peripheral nerves. In them we read a louder call for protection than in those of the superficial type of painful troubles. Diseases of the body associated with toxæmia more generally affect the vascular supply of the dura, either through the pneumogastric and its associated nerve, the sympathetic, or through the fact that the toxins may have a selective action on intracranial nerves.

Headaches are of three types:

(*a*) Those produced by the affection of the structures of the cranium and its contents.

(*b*) Those due to disease conditions existing in the bones of the face, where the pain is reflected upward along the course of a nerve.

(*c*) The true neuralgias of one branch or another of the fifth nerve.

Headaches proper do not follow the course of a nerve and are

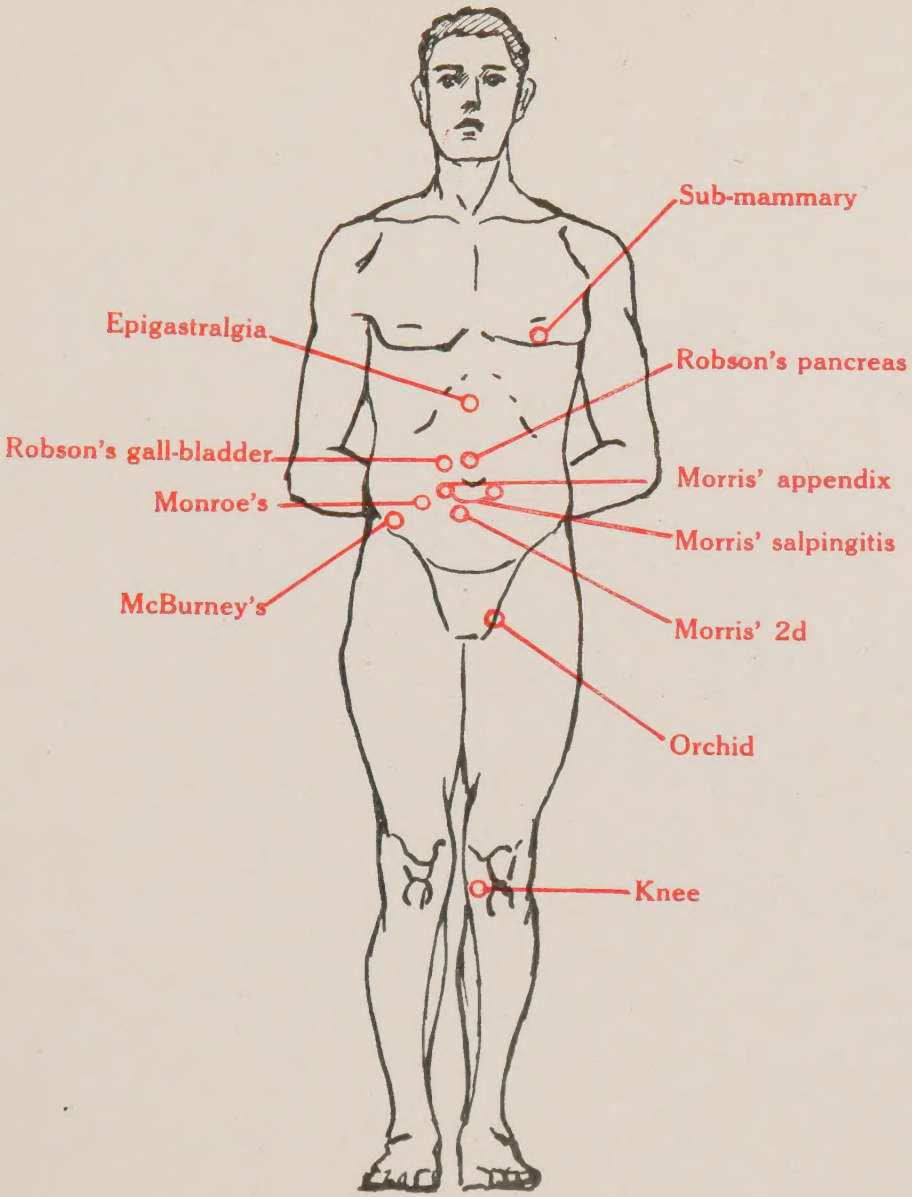
difficult to locate accurately. The following is an attempted tabulation of the various kinds:

1. Neuralgic-nerve tender at foramen of exit.
   Sharp pain following the nerve.
   Lancinating in character.
   Occurring in those predisposed to neuralgias.
   Generally caused or aggravated by toxæmias.
   Cured by tonics and regulation of the gastro-duodenal tract.
2. Aching along the course of the supra-orbital nerve.
   Somewhat tender.
   More of an ache than a neuralgia.
   Periodic. On second day transferred to other side of face.
   Associated with intestinal toxæmias, defective digestion and metabolism.
   Aided by hygiene of the intestinal tract and vigorous outdoor life.
3. Sharp, stabbing, severe pain running along course of supra-orbital nerve.
   Associated with great tenderness and facial spasm.
   Lasts for days.
   Known as tic douloureux.
   Relieved by general body hygiene, high frequency electric current, resection of nerve, and alcoholic injections.
4. More or less severe pain, with fortification spectra noted on first day.
   Associated with severe nausea and vomiting towards the end, recurring with pernicious regularity, not relieved by any treatment—indicates megrim.
5. Ache over one eyebrow, particularly in morning.
   Associated with nasal catarrh.
   Caused by empyema of the antrum.
6. Rather diffuse pain over one eye, inner side, with tenderness, particularly on percussion at root of nose.
   Characteristic of sinusitis, frontal.
7. Fronto-vertical headache sometimes points to decayed incisors and eye-teeth.
8. Occipital unilateral headache may indicate a decayed molar in lower jaw on that side.
9. Pain circumscribed in temporal region—decayed molar in upper jaw.
   Sometimes associated with graying of the hair in that region.
10. Pain further forward—decayed molar in lower jaw.
11. Lateral headache running up in front of the ear to the vertex often indicates diseased tonsil and mastoid.

Bilateral—

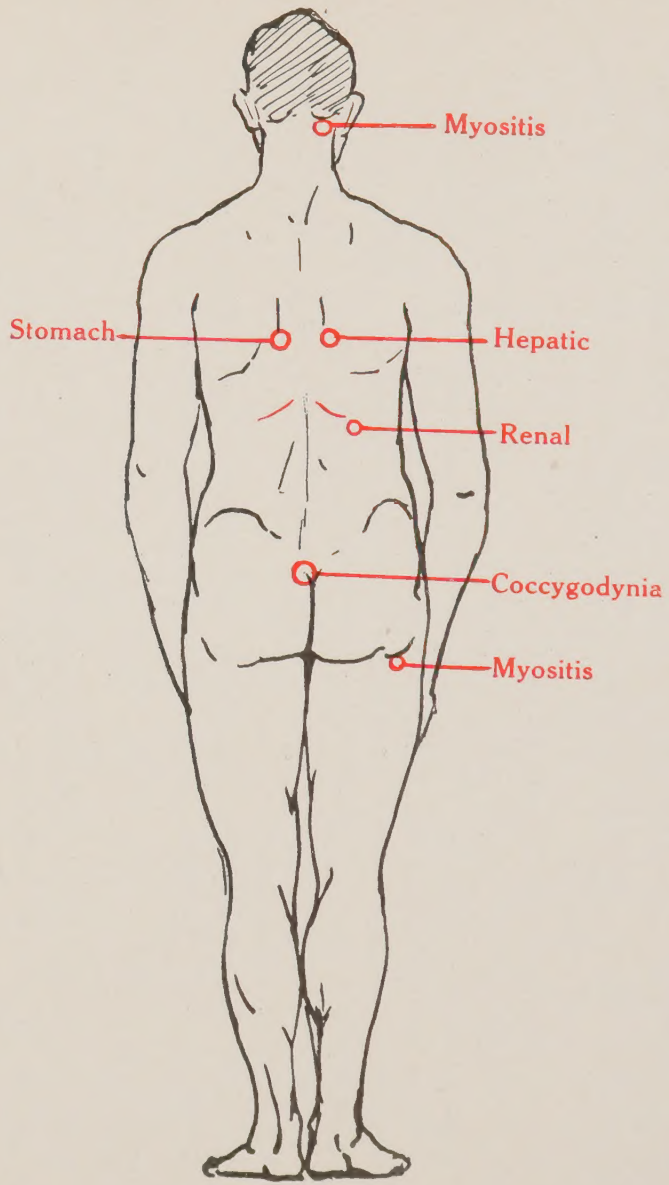
12. Pains in low forehead and extending indefinitely towards base of brain.
    Associated with sensitiveness of sight.
    Sometimes slight tenderness of skin.
    Pain throbbing.
    Aggravated by stooping or sudden motion.
    Probably dural, congestive.
    Due to constipation and intestinal toxæmias.
    Cure—proper regulation of *diet* and bowels.

Fig. 3.



Tender points on the anterior surface of the body.

Fig. 4.



Tender points on the posterior surface of the body.

(For explanation of figures, the reader is referred to the text.)

13. Pain in forehead, somewhat higher than eyebrow.
    Deep.
    Due to some perversion of stomach or duodenum.
    Relief obtained by acids.
14. Aching further up on prominence of frontal bone indicates some perversion in same neighborhood.
    Relieved by alkalies.
15. Pain in low forehead between eyebrows indicates irritation in vault of the palate.
    Seen in the rapid eating of ice cream.
16. Pain bilateral, frontal, or frontotemporal.
    Felt on waking, passing away in a few hours.
    Throbbing, sense of tension, and lassitude.
    Tendency to urticaria, chilblains, and angioneurosis.
    Relieved by calcium lactate.
17. Mesial headache, circumscribed, junction of forehead and hair-line, generally indicates tension in some of the facial sinuses.
18. Indefinite occipital and frontal headaches brought on by use of eyes mean eye-strain.
19. Occipital headaches may be neuralgic, following the great occipital.
    Accompanied by tenderness.
    Due to some toxæmia or to malaria.
    If associated with nephritis—uræmic.
    More rarely, intestinal toxæmia.
20. Occipital pain may occasionally indicate an intrathoracic tumor in patients the subjects of aneurism of the arch.
21. Pain on top of head, deep-seated, with sense of pressure, indicates pelvic lesions, anæmia, associated with so-called neurasthenia.
    If it is like the driving of a nail, particularly in women, hysterical condition.
    Relief of both—cold spongings to head and spine, frequently applied, followed by vigorous rubbing, general hygiene, and tonic treatment.

Diffuse—

1. General diffuse headache, associated with gastric disturbances, rise in temperature, with slight or considerable obtuseness of mind, indicates onset of some febrile condition.
2. Associated with contracted pupils, sensitiveness as to sounds, with rigidity of muscles of neck, indicates cerebrospinal meningitis.
3. Localized severe pain, worse at night, continuous, associated with choke disc, gastric disturbances and vertigo, may mean regional meningitis or tumor.
4. Severe general headache in pregnant women, associated with epigastralgia, diminution in the visual field, alteration in the partition of nitrogen in urine, is a prodrome of eclampsia.

Through some chemico-physical or histological defect in the "pain-centre," to use a comparative term, we may have sensations originating there, referred by paths of least resistance to the periphery, thus accounting for hysterical hyperæsthesias and pains. The

vertical clavus and its analogue, coccygodynia, may thereby have central foundations.

In differential diagnosis of disease conditions the study of headache is valuable, provided the headaches be *studied,* and, to be studied properly, examination of the scalp and contiguous tissues should be as systematically made as has been the habit in thoracic and abdominal lesions. A careful study of the history of the headaches of a patient will sometimes aid one in suspecting otherwise unexpressed lesions of the body.

TENDER POINTS

Passing from the symptom headache to tender points as a sign of existing lesions, we obtain further and more important information for diagnosis. It was Valleix who, in 1841, first noted tenderness in certain points in the course of a nerve, thereby differentiating between so-called neuralgia and other painful conditions. From that time to date we have come into possession of facts which enable us better to comprehend reasons for local tenderness and to give them proper interpretation.

Local tenderness may be induced by three conditions: first, circumscribed inflammation; second, possible alteration in a certain part of the course of a nerve; and, third, alterations in the sympathetic ganglion, the result of continued irritation of some nerve branch.

Tenderness due to local inflammation is general as to the organ or part affected. It is never a tender spot and has no direct connection with the nervous system. Its special significance in diagnosis is very different from the reflex tender spots under discussion.

The other two types are more or less constant as to location, and are either reflex or referred points of tenderness. The study of tender spots will be facilitated by taking the regions of the body seriatim rather than by separating those of the neuralgic type from those of the ganglionic. Where an affected nerve passes through a facial aperture it may acquire supersensitiveness. This is seen in the so-called Valleix's points in the intercostal nerve. Valleix extended his observations to a considerable part of the body, and may have exaggerated the importance of this diagnostic sign, but it holds with much value in this one place, differentiating it from pleurodynia and inflammatory conditions. We find it, however, well accen-

tuated in the nervous type of headache at the point where the fifth nerve emerges from its foramen.

Sub-mammary.—Under the left breast in the fourth or fifth intercostal space at Valleix's point we sometimes get persistent tenderness and continued pain. This is seen only in women and is a reflex effect from some chronic sclerotic condition of the uterus and adnexa, or a pelvic condition associated with the pinching of a nerve.

Over the apex of the heart we have a point of cutaneous hyperæsthesia where pressure with the stethoscope is painful in those lesions of the heart where the muscle is overworked and strained.

Myositis Dolorosa.—Myositis dolorosa is a disease little known, much neglected in literature, and best comprehended by the Swedes and Norwegians, whose practitioners employ massage in the treatment of muscle lesions. In those countries the doctor examines and massages his own patients, and he acquires a delicacy of touch and refinement of diagnosis that cannot be fully appreciated by those who refer their cases to masseurs, as we in America know them.

Many so-called occipital headaches are lesions in the muscle of the neck. Here, in the gluteus maximus and in the muscles of the thigh, we find spastic states, hardening of the muscle, and points of exquisite tenderness, indicative of sclerosis with pain. This condition is generally brought about by traumatism and is only relieved by deep, vigorous, and repeated kneadings with the finger tips, bruising of the parts, breaking up of adhesions, and promoting of exudate absorption.

Knee.—In synovitis at the knee there is a point of tenderness where the internal lateral ligament is attached to the head of the tibia.

Renal.—A tender spot at the tip of the twelfth rib is present in cases of pyelitis with tension, particularly when renal calculi exist. It is fairly constant and always found on the side of the lesion, even though the pain be referred to the other kidney. In examining for this, pressure should be made in the soft part around the tip. If it be found free from sensitiveness and the tip of the rib tender each time pressed upon, its significance may be accepted. The intimate relation between the posterior root of the twelfth nerve and the renal ganglia of the sympathetic accounts for this.

Pancreas (Robson's Point).—Robson has given us two points in the upper abdomen. One inch above the umbilicus in a mesial

line we obtain tenderness on pressure in pancreatitis. This may be a tenderness of the first class, not strictly a neuropathic condition, but in the majority of cases it holds constant as to position, and is very valuable in diagnostics.

Gall-bladder (*Robson's Point*).—In cholecystitis we may have tenderness at a point one inch from the umbilicus on a line drawn diagonally up to the mesial line. In nervous dyspepsia due to irritating effects of chronic appendicitis associated with cholecystitis, tenderness at this point is most helpful in differentiating between the many lesions which occur in this complex portion of the abdomen.

Epigastrium.—In the epigastrium, just below the tip of the sternum, is an area of tenderness associated with a distress known as epigastralgia. It has a broad significance and is often associated with pulsation at the cœliac axis, divergent recti, and some chronic nip in the periphery of the abdominal sympathetic.

Appendix—Acute Appendicitis (*McBurney's Point*).—Lesions in the lower abdomen give two types of tender points, acute inflammation of the appendix inducing a point of hyperæsthesia known as McBurney's, one and a half inches from the anterior superior spine on a line towards the umbilicus. It is fairly constant, except in cases where the appendix is lower or higher than normal, when there is sometimes a shift.

Chronic Cæco-Appendicitis (*Monroe's* and *Morris's Points*).—Monroe's point at the margin of the rectus running on a line from the spine to the umbilicus is approximately over the ileocæcal valve, and Morris's point, one and a half inches from the umbilicus on the same line, over the upper ganglia of the hypogastric plexus, pressure on which becomes painful when the plexus is exhausted by steady drag, such as is seen in conditions of chronic cæco-appendicitis, where the nerves of the appendix are pinched by contracting tissues. There is another point of tenderness characteristic of chronic cæco-appendicitis. It is one and a half inches below the umbilicus and half an inch to the right.

These points should all be tested in examination for chronic cæco-appendicitis, and every conscientious practitioner should endeavor to become familiar with them. A carefully-taken history should be obtained in every case of suspected cæco-appendicitis or stomach trouble. The intimate correlation between the two has been

so thoroughly proven that no physician is doing the best for his patient or for himself who does not try to work out the broad pathology which commonly exists in the abdomen.

Every case of chronic appendicitis is disturbing some one or another of the viscera. To put an appendix in cold-storage, thereby postponing operation, is a sin against the individual. In all abdominal cases each tender point should be looked for and the possibility of " suggestion tenderness " eliminated by repeated examination and by distracting the attention of the patient.

In chronic appendicitis Morris's point is always tender, Monroe's somewhat so, and McBurney's never. In subacute appendicitis with hyperplasia, Morris's point is tender, Monroe's and McBurney's equally so. In acute appendicitis the first condition is reversed: McBurney's point is tender, Monroe's at times, and Morris's never, unless (as not uncommonly happens) there be an acute attack on top of a chronic one, when there will be tenderness at both Morris's and McBurney's points.

Chronic Salpingitis.—In order to differentiate between chronic salpingitis and chronic cæco-appendicitis, press the point to the left of the umbilicus corresponding to Morris's point on the right. If both are tender, one may be suspicious of a lesion in the pelvis. If the right is considerably more tender than the left, then chronic cæco-appendicitis with salpingitis may be suspected.

Coccygodynia.—There may be tenderness at the *tip* of the coccyx, not at its sides nor on its body. This condition has often been mistaken for a local trouble and the coccyx repeatedly removed, but the pathogeny is drag on the broad ligaments with drain on the ganglia impar and reflection of a sense of pain to the tip of the coccyx. The treatment of this is always to the uterus and adnexa.

Testicle.—In lesions of the testicle we have a tender spot where the cord passes into the external ring.

Hepatic and Stomach Lesions.—In hepatic lesions we may find a tender point on a line with the tip of the scapula on the right, and in gastric lesions, one at the left.

Spine.—There are several points of tenderness over the spine which should be better comprehended than they are at present. The recent researches by Dr. Albert C. Geyser on the application of the electric current in diagnosis allows of more exactness. He uses a

faradic coil as follows, quoting from his reprint on "The Underlying Cause":

One pole of the battery (it does not appear to make any difference which) is attached to a six-by-six-inch moist electrode, and applied in front over the epigastric region; the other, a smaller electrode, two by two inches, well moistened, is passed lightly over the spinal column, with a current strength only sufficient to be agreeably felt by the patient. Pass this electrode up and down the entire length of the spinal column with ordinary pressure, eight to ten times, remove the electrodes, when it will be found that we have bodily outlined upon an otherwise white background vivid red spots.

These spots for some minutes after the current is removed tend to become even more prominent and more sharply circumscribed. If we now make digital pressure upon any of these indicated spots, we shall find sensitive or painful areas, while no pain will be complained of in the intermediate region.

These pictures in a short time become almost pathognomonic of certain ailments, and, with an exactitude that is surprising, point to a location of the particular region or organ involved, so that the observer can make a diagnosis from the reflex centres involved.

The explanation of this phenomenon is neither mysterious nor difficult; if we remember the nerve connections just prior to the entrance to or exit from the spinal canal, and if we bear in mind the effect of irritation upon any tissue, then we have a clear conception of why the sympathetic nervous system should respond so readily to our irritation, and why the more irritated centres (from other causes) should respond before even the normal tissue appreciates the irritation produced by the current.

To obtain the greatest value in examining for tender points one must remember that the mind of the patient should be distracted, otherwise the imagination suggests tenderness where it really does not exist. Pressure should be made at different points and the susceptible and negative results predicted. If each time pressure be made at the orthodox place with coincident tenderness, then the result may be considered reliable. Occasionally, however, repeated pressure apparently diminishes the sensitiveness, so prolonged examinations may tend to make them futile.

BIBLIOGRAPHY

Bramwell: Anæmia and Diseases of the Blood-forming Organs and Ductless Glands, 1899.
Brunton: Disorders of Digestion, 1886.
Butler: Diagnostics of Internal Medicine, 1902.
Church: Diseases of the Nervous System, 1900.
Church and Peterson: Nervous and Mental Diseases, 1899.
Dana: Text-book of Nervous Diseases, 1897.
Fothergill: Physiological Factors in Diagnosis, 1884.
Deaver: Surgical Anatomy, 1910.
Geyser: Underlying Cause, 1911.

GRAY: Anatomy, 1905.
HEAD AND HOLMES: Researches into Sensory Disturbances from Cerebral Lesions, *Lancet*, Jan. 6, 1912.
HERTER: Common Bacterial Invasions of the Digestive Tract, 1907.
HILL: Body at Work, 1908.
HILTON: Lectures on Rest and Pain, 1862.
KER: Infectious Diseases, 1909.
LONG: Influence of the Sympathetic on Disease, 1885.
MITCHELL: Gastric and Duodenal Ulcer, *Annals of Surgery*, Dec., 1911.
MUSSER AND KELLY: Practical Treatment, 1911.
NOTHNAGEL: Diseases of the Heart, 1907.
PEPPER: American Text-book of Theory and Practice of Medicine, 1894.
PEPPER: System of Medicine, 1886, v.
RANNEY: Applied Anatomy of the Nervous System, 1881.
RIBOT: Psychology of the Emotions, 1897.
ROBSON AND CAMMIDGE: Gall-stones and their Complications and Treatment, 1909.
ROBSON AND MOYNIHAN: Diseases of the Pancreas, 1902.
SANTEE: Anatomy of the Brain and Spinal Cord, 1907.
SCHMIDT: Pain, 1908.
STEELL: Intrathoracic Tumors and Aneurisms, *Lancet*, Dec. 9, 1911.
STEDMAN: Twentieth Century Practice of Medicine, 1897, xi.
ZIEMSEN: Cyclopedia of Practice of Medicine, 1876, xi.

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